Speedwell Weather Limited

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SuperPack[®]-Light

Speedwell Weather

SuperPack-Light is for sophisticated weather data users who require large volumes of high quality world wide data but who do not need the full-service provided under the full SuperPack subscription.

SuperPack[®]

- SuperPack-Light is a corporate-wide subscription providing access to over 1,500 user-specified data sets chosen from over 21,000 key world-wide data sets at zero marginal cost. Our archives include over 10,000 cleaned historical data sets and/or feeds from around the world.
- SuperPack-Light includes access to over 250 world wide agri-baskets and over 150 population weighted energy consumption baskets used for modelling energy consumption.
- SuperPack-Light dramatically simplifies the administration of your data needs. A single contract covers all users group-wide for all data.
- SuperPack-Light includes access to Speedwell suite of web-delivered data analysis and visualization tools including Data Viewer, Weather Index Cone, Monthly / Weekly value calculator, Statistics Extractor, Index Calculator, Actuals Vs. Climatology, Analogue Years...
- SuperPack-Light is a "living product" that is constantly growing and being updated. As additional data sets are sourced and processed they are added to the online inventory and made available to subscribers.
- Used by insurance, agri and energy-traders, funds, banks and energy companies world-wide

Data Sources

Speedwell has direct supply agreements with many National Meteorological Services worldwide allowing us to supply official climate data for countries.

Note: Due to data quality considerations, OUR DATA IS <u>NOT</u> DERIVED FROM THE US "GSOD" DATA BASE..nor is our data simply a facsimile of the ISH archive as is the case with some other providers.

Global Data Coverage



Albania Algeria Antarctica Antiqua Argentina Armenia Aruba Australia Austria Bangladesh Barbados Belarus Belgium Belize Benin Bolivia Bosnia Botswana Brazil Bulgaria Burkina Faso Canada Cape Verde Chile China Columbia Croatia Cyprus Czech R. Denmark Dominican Egypt Estonia Ethiopia Faroe Isles Finland France Georgia Germany Ghana Gibraltar Greece

Greenland Guatemala Honduras Hong Kong Hungary India Indonesia Iran Ireland Israel Italy Jamaica Japan Kazakhstan Kenya Korea S. Latvia Lebanon Liechtenst. Lithuania Lux. Macedonia Malaysia Maldives Mali Malta Mauritania **Mauritius** Mexico Moldova Mongolia Montenegro Morocco Mayanmar Netherlands New Zeal. Niger Nigeria Norway Oman Panama

Paraguay **Philippines** Poland Portugal **Puerto Rico** Romania Russia Saudi Ar. Senegal Serbia Singapore Slovakia Slovenia S. Africa Spain Sri Lanka Syria Sweden Switz. Taiwan Taiikistan Tanzania Thailand Togo Trinidad Tunisia Turkey Turkmenist. UK Ukraine Uruguay USA Uzbekistan Vietnam Zambia Zimbabwe



Pakistan

Weather Data Station Location



Data Availability

* red dots represent weather station locations of stations in our primary archives and available through Super-Pack-Light., subject to the limit of 1,500 sites

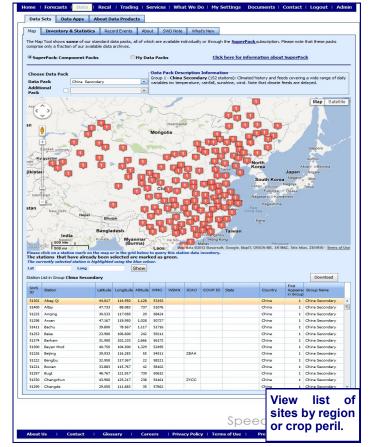
Weather Data Inventory

Access to a detailed station inventory is provided via the Speedwell web site www.SpeedwellWeather.com. Using the map tool a user can review the availability of data on a country-by-country basis or by sector (e.g. "China Cotton").

Inventory statistics include:

- Station attribute information (station name, WMO #, National ID #, Speedwell ID, latitude, longitude, elevation)
- Breakdown of statistics by weather variable
- Begin date / end date of data
- Percentage data completeness for 1, 5, 10, 20, 30 year and all-year periods
- Station meta data (information about observation conventions, data sources...)

Users can download data directly from this page



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Data Hel	Example Output	ceive by FTP or	Station Info	iburg, dermany	, WHO. 10	291, SW3 ID	. 50575, 50	100110.3110	wno_10	291, Lat. 33	.0333, LUNG. 1	4.0000,	AIC JU	
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you. If you are	tor allows historical data to be downloaded directly into csv files from the Speedwell database. Let us manage y logged in as a Free Content User or do not have a specific subscription to the Data Warehouse, only a small sele	Zema data man-	Solar radiation units: Joi		U+1								=	
	ta set subscribers: these data sets are available only via FTP.		Note - the times of day	when climate re	adinos are n	nade have cha	nged many ti	mes over the pa	ast 100 vears	in Germany, P	re 1990 the forr	ner East		
This tool is subs	cription only and allows clients who do not take data by FTP to download their data. To see available data sets p	agement tool	and West German Met										k	
									ownload Table					
Country	Albania		Inventory Statistics					Do	ownioad Table	e				
Station	Tirana SWD 15-day forecast Site.	121			Audit End						% Complete H	us Ha	s	
	Daily Thin is the 12-hour minimum reading reported at 0600; daily TMax is the 12-hour maximum reading report Daily rain corresponds to the period from 0600D0 to 0600D+1 UTC.	ed at 1800.	Element Name		Date	% Last 1 Yrs	% Last 5 Yrs	% Last 10 Yrs	% Last 20 Yrs			eaned Cl ed Hi	leaned istory	
Station Info	Daily rain corresponds to the period from double to double 101C.		Pressure Ave	01/Jan/1950	21/Jun/2012	100.00	100.00	100.00	100.00	100.00	99.79			
			Pressure Sea Level	28/Oct/2011	21/Jun/2012						100.00		_	
	Temperature May	-	Rain	01/Jan/1951	21/Jun/2012	100.00	100.00	100.00	100.00	100.00	100.00	Yes	Yes	
Element			Relative Humidity	01/Jan/1950	21/Jun/2012	100.00	100.00	100.00	100.00	99.99	100.00			
Data Period	Last 10 Days Cast 100 Days Last 365 Days Last 5 Years All	Years O Custom			21/Jun/2012	100.00	100.00	100.00	100.00	100.00	100.00			
	Start Date 15/04/2012 • • • End Date 14/05/2012 • • •		Snowfall		21/Jun/2012	100.00	100.00	100.00	100.00	100.00	99.92			
			Sun Radiation	24/Jan/2007	12/Apr/2010						99.83			
Download (CSV	Format) Station Information and Inventory Statistics		N/1		2012	100.00	100.00	100.00	100.00	100.00	98.56 100.00	Yes	Yes	
			View audi		0012	100.00	100.00	100.00	100.00	100.00	100.00	Yes	Yes	
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Speedwell Weather



What SuperPack-Light **Provides**

Standard Data:

Historical Data & Ongoing Feeds via FTP or Web site

- 250+ world-wide crop-area baskets of cleaned • history and feeds
- 150+ energy demand population weighted baskets of cleaned history and feeds
- US Primary Data Pack (260 "First Order" stations), cleaned daily temperature & precipitation
- US Secondary Data Pack (250 "Second Order" • stations), cleaned daily temperature & raw precipitation

Data On Demand:

Selected from our catalogue of 21,000+ stations

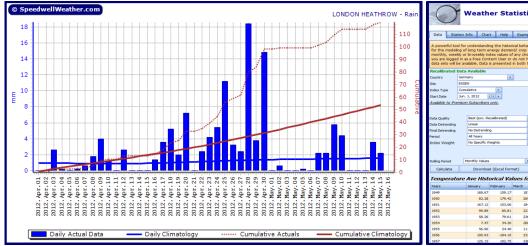
An additional 1,500 daily data sets (historical & ongoing feeds) via FTP download or via immediate web download.

Access to Speedwell Data Tools

- Subscribers have unlimited access to a range of data tools available through the Speedwell web site.
- Data Tools are designed to provide users with additional insight into historical time series.

Some of the most popular include:

- Actuals Vs. Climatology tool
- Statistics Extractor tool
- Index Calculator tool
- Weather Index Cone tool
- Analogue Years Tool



Actuals Vs. Climatology Tool: Visualize the cumulative value of any weather variable for any period against climate

About Speedwell Cleaned Data

SuperPack-Light users are able to access our archives of over 10,000 international cleaned data sets. Up to 1,500 sites can be chosen as well as standard weighted baskets.

Cleaned data is data that has been processed to fill missing values and correct erroneous observations. The end result is a dataset that is ready to be used for analysis.

Speedwell's proprietary cleaning methodologies use a mixture of automated processing to flag possible errors followed by manual inspection.



Actuals Vs Climatology Tabular or graphical view of any weather variable relative to climate normals for any period.



Weather Statistics Extractor Extract weekly, or monthly statistics such as cumulative temperature, HDDs, CDDs,



Index Calculator Calculate the historical values of any weather index

Weather Index Cone

Visualise the evolution of a weather variable over any period and compare with averages, extremes and last year at the click of a button.



Correlation Analysis Calculate daily, monthly correlations and auto-correlations.

Weather Statistics Extractor Tool: Calculate monthly values of any weather index.

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	110		Data Stat	ion Info Cha	rt Help	Example C	lutput											
	- 100		for the modelin monthly, week you are logged	A powerul tool for understanding the instoncial behaviour of a reference site and for extracting data required for the modeling of long term energy demand/ crop yields etc, the Weather Statistics Extractor calculates monthly, weekly or bi-weekly index values of any chosen weather variable. This is a subscription-only service. If										Tip << >> This tool generates exportable weekly or monthly values of weather indexes. Please contact us for subscription details and for information about our				
				e available. Data	is presented	in both tabu	ar and grapt	ical form.			Supe	r-Long historia	al datasets.					
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			1950	82.28	179.42	269.06	302.10	456.39	556.71		604.41		305.46	206.45	-21.13			
1			1951 1952	167.12	153.06	184.29	284.79	428.62	490.08		598.20		299.88	289.98	151.31			
3			1952	58.26	85.81	223.11 236.04	401.82	4/8.38	491.80		570,49		269.52		183.99			
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_			1957	125.15	192.75	336.80	310.34	369.85	\$33.39	621.95	\$35.59	397.64	341.82	203.59	71.98			

SuperPack[®] Features Summary

Feature	Super- Pack [®] Light	Super- Pack [®]
A choice of over 21,000+ core sites shown on the Speedwell map tool		
Access to Speedwell's secondary archive of circa 120,000 weather stations*		
Access to Speedwell's world wide agri and energy basket histories and feeds.		
Access to up to 1,500 historical data sets delivered per annum by FTP as well as standard weighted-baskets		
Access to up to 1,500 data feeds by FTP		
Unlimited access to historical data sets*		
Unlimited access to data feeds*		
Access to daily data		
Access to hourly and sub-hourly data		
Data cleaning-on-request*		
Access to web-delivered data tools		
Access to temperature & precipitation and other daily weather variables		
Access to all other weather variables		
Custom Data Requests*		
Custom Delivery Formats*		

* On a reasonable-request basis. A single data format for delivery is supported as standard

About Speedwell Weather Limited

Speedwell Weather provides quality weather data, weather forecasts, software, and weather-risk consultancy. With offices in the UK and the USA we serve clients in sectors including weather-risk, energy and agriculture world-wide. We are the dominant provider of settlement data for parametric weather risk contracts.

World-wide weather data

Speedwell carries an archive of many tens of thousands of quality weather data sets world-wide. Historical data and feeds are available via web download, by Speedwell API or by FTP. Our data sets are available for individual sites or, for users looking for unlimited access through SuperPack[®]. SuperPack makes available an unprecedented range of quality historical weather data and weather data feeds ondemand for a single annual fee.

Contacts

For more information about Commodity Product or other data and forecast services please see <u>www.SpeedwellWeather.com</u> or contact:

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Environmental

Annual Market Rankings

2016

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Annual Market Rankings Winners: 2007-2015

Best Advisory/Data Service





Best Global Weather Risk Management Advisory / Data Service Winner for the 10th consecutive year

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